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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/806,045  | 03/22/2004  | Donald J. Kouri      | 96605/24UTL         | 9997             |
| 7590  | 08/22/2005  |                      | EXAMINER            |                  |
| ROBERT W. STROZIER<br>P.O. BOX 429<br>BELLAIRE, TX 77402-0429 |             |                      | HUYNH, PHUONG       |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 2857                |                  |

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |      |                     |  |
|------------------------------|------------------------|------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> |      | <b>Applicant(s)</b> |  |
|                              | 10/806,045             |      | KOURI ET AL.        |  |
|                              | <b>Examiner</b>        |      | <b>Art Unit</b>     |  |
| Phuong Huynh                 |                        | 2857 |                     |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08/15/2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 10-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Claim Objections***

1. Claims 10-13 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in alternative only. See MPEP § 608.01(n). Accordingly, the claims 10-13 have not been further treated on the merits.

***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 5 is rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. This is merely a mathematical calculation which does not provide any tangible results.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4, and 6-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1:

- "Calculating  $\tilde{V}_1[n]$ ," is indefinite as the function is not defined in the claim.
- "Absolutely and uniformly convergence" is grammatically incorrect.
- "Amenable to efficient iterative computational determination" is unclear as the metes and bounds of "amenable" and "efficient" cannot be determined.
- "Allowing for fast tentative identification" is unclear as the metes and bounds of "fast" cannot be determined.

5. Regarding claim 2, n cannot be equal both 0 and 1.

6. Regarding claim 3, "n=1" conflicts with claim 2 wherein "n=0".

7. Regarding claim 4, the relation of  $\tilde{V}_1[n]$  to  $\tilde{V}_1(z)$  is unclear and the terms are undefined.

8. Regarding claim 6:

- "Utilizes equations" is indefinite as the "equations" is not defined.
- "Amenable to efficient iterative computational determination" is unclear as the metes and bounds of "amenable" and "efficient" cannot be determined.
- "Allowing for fast tentative identification" is unclear as the metes and bounds of "fast" cannot be determined.
- "Mixtures or combinations" is unclear as the metes and bounds of "mixtures or combinations" cannot be determined.
- "An inverse scattering equations" is grammatically incorrect.

- “Equations” is not defined.
  - “Function  $\tilde{V}_l[n]$ ” is undefined.
  - “Adequate potential function” is unclear as the metes and bounds of “adequate” cannot be determined.
  - “First few leading terms” is indefinite because “terms” is undefined.
9. Regarding claim 7, “first few terms comprise the first four terms” is indefinite.
  10. Regarding claim 8, “first few terms comprise the first three terms” is indefinite.
  11. Regarding claim 9, “first few terms comprise the first two terms” is indefinite.

### ***Claim Rejections - 35 USC § 102***

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

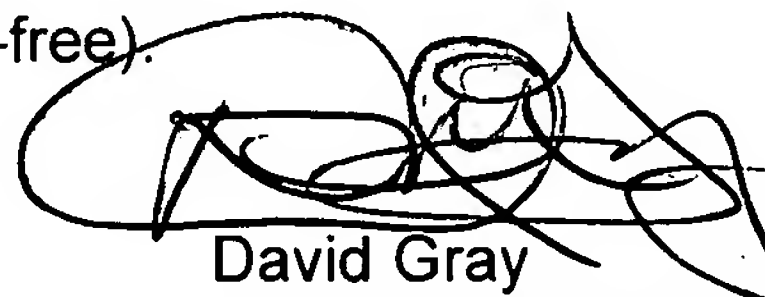
13. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by The approximate inverse for solving an inverse scattering problem for acoustic waves in an inhomogeneous medium.

As best the examiner can ascertain from the language of the claims, the terms and phrases thereof are met by The approximate inverse for solving an inverse scattering problem for acoustic waves in an inhomogeneous medium.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Huynh whose telephone number is 571-272-2718. The examiner can normally be reached on M-F: 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Gray can be reached on 571-272-2219. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'David Gray', is written over a horizontal line.

David Gray  
Primary Examiner  
Art Unit 2851